

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant(s): Vakhshoori

Application No.: 09/639,678

Filed: 08/11/2000

Title: Method for Modulating An Optically Pumped,  
Tunable Vertical Cavity Surface Emitting Laser  
(VCSEL)

Group Art Unit: 2815

Examiner: Nguyen

Attorney Docket No.: CORE-57 120-326

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450RESPONSE UNDER 37 CFR 1.111

Dear Sir:

In response to the Office Action of July 31, 2003, please amend this application as shown  
in the claims attached hereto.

REMARKS

Reconsideration and further examination is respectfully requested. Claims 1 and 2 are  
pending.

Rejections under 35 U.S.C. §102

Claims 1 and 2 were rejected under 35 U.S.C. §102 as being unpatentable over  
Kullander-Sjoberg et al.

Kullander-Sjoberg describes a pump VCSEL that 'is activated by applying a DC bias  
between its bottom contact 5 and the bottom mirror 8 of the main VCSEL 9 operating at 1300  
nm... The main VCSEL is modulated by using an external electrical field applied perpendicular  
to the active layer 10, employing the Stark-effect to deliberately change the band-gap of the